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EXAMINER

MEUCCI, MICHAEL D

ART UNIT	PAPER NUMBER
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2142

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/852,200

Applicant(s)

BECKWITH ET AL.

Examiner

Michael D. Meucci

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Oath/Declaration

1. Note has been taken of response to defective oath/declaration. This objection will be held in abeyance. The objection has **not** been withdrawn.

Response to Amendment

2. Examiner acknowledges amendments made to overcome all claim objections from previous action. As such, the claim objections have been withdrawn.

3. Examiner acknowledges amendments made to overcome 35 U.S.C. §112 2nd paragraph rejections from previous action. As such, the previous rejections have been withdrawn.

Drawings

4. The drawings are objected to because label 110 in Fig. 1 does not point directly to the control process as specified in the disclosure. Label 110 and label 120 are effectively pointing at the entire figure. As such, Label 110 in Fig. 1 should remain consistent with the other drawings and should point directly to the control process in the same fashion as label 210 in Fig. 2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as

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"amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does not contain any definition of a "common hardware platform" as disclosed in claim 18.

Claim Objections

6. Claim 21 objected to because of the following informalities: It is believed by the examiner that applicant meant to specify --in which synchronization points-- on line 5 of claim 21 in place of "which synchronization points." Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claim 18 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The claimed "common hardware platform" is not defined in the specification. For the purpose of applying art, it will be presumed that the applicant meant to disclose --within one of said servers where said server process resides--. Applicant is required to amend the claims to better define/describe the subject matter or cancel the claims.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim limitation "no more than one control process" on line 7 of the amended claim includes the limitation --zero control processes-- which makes the invention inoperable. For the purpose of applying art, it will be presumed

that the applicant meant to disclose --a single control process-- in this instance remaining consistent with independent claims 19 and 29. Correction is required.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-7 rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo et al. (U.S. 6,330,582 B1) hereinafter referred to as Kuo in view of Redmond (WIPO Publication WO99/22317).

a. As per claim 1, Kuo teaches: at least one server process capable of sending and receiving messages (abstract and lines 13-17 of column 3); at least one client process capable of sending and receiving messages (abstract and lines 13-17 of column 3); and no more than one control process for passing the messages to and from the server process and the client process (abstract, lines 20-35 of column 2, and lines 49-52 of column 3).

Kuo does not explicitly teach: where the server process, the client process, and the control process are all separate and distinct processes, and all messages between the server process and the client process are controlled by and relayed through the control process. However, Redmond discloses: "Central controller 18 receives message data 12, via a communications interface, and automatically communicates

with and controls database 22 to remove and/or disperse information from database 22 that matches information contained in the message data 12,” (lines 21-25 of page 10).

It would have been obvious to one of ordinary skill in the art at the time of the applicant’s invention to have the server, client, and control processes as separate and distinct processes and have all messages between the server process and the client process controlled by and relayed through the control process. “Preferably, system 10 provides an automated central controller 18 to automatically communicate with and control a plurality of databases 22, 24, 26 upon being supplied with message data 12 from a user,” (lines 25-27 of page 10 in Redmond). It is for this reason that one of ordinary skill in the art at the time of the applicant’s invention would have been motivated to have the server, client, and control processes as separate and distinct processes and have all messages between the server process and the client process controlled by and relayed through the control process in the system as taught by Kuo.

b. As per claim 2, Kuo teaches: server process and client process send and receive messages only to and from control process... (abstract and lines 20-35 of column 2).

c. As per claim 3, Kuo teaches: control process controls the running... (abstract); and control process sets synchronization points... (lines 53-58 of column 4).

d. As per claim 4, Kuo teaches: a plurality of server processes... (abstract); wherein said control process... (lines 33-44 of column 2, lines 53-58 of column 4, lines 38-40 of column 7, and Table IV in column 9).

e. As per claim 5, Kuo teaches: a plurality of client processes associated with said server process... (abstract).

f. As per claim 6, Kuo teaches: a plurality of server processes... (abstract);

g. As per claim 7, Kuo teaches: said control process sets up a server order queue... (lines 33-35 of column 2 and lines 35-42 of column 3).

13. Claims 8, 9, and 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo and Redmond as applied to claim 3, in view of Baker et al. (U.S. 6,611,498 B1) hereinafter referred to as Baker.

a. As per claim 8, Kuo teaches: said server process evaluates... (lines 24-42 of column 3); and at least one said server process... (lines 24-42 of column 3).

Kuo does not explicitly teach: said event expression message containing a time stamp... However, Baker discloses: "A client session's time stamp is updated each time a message transaction containing the session id for the session is received," (lines 13-15 of column 17).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the event expression message contain a time stamp. "If the time stamp value shows that a session has aged, the session entry for the aged session is cleared from the session table 660," (lines 23-35 of column 17 in Baker). It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have the event expression message contain a time stamp in the system as taught by Kuo.

- b. As per claim 9, Kuo teaches: a plurality of server processes... (abstract).
- c. As per claim 11, Kuo teaches: said control process sets up a server order queue... (lines 33-35 of column 2 and lines 35-42 of column 3).

14. Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo, Redmond, and Baker as applied to claim 9, in view of Trinh et al. (U.S. 6,654,956 B1) hereinafter referred to as Trinh.

As per claim 10, Kuo does not explicitly teach: the time stamp is an indication of the elapsed time from a start of the control process, and where the elapsed time is proportional to a time elapsed in the control process between the synchronization points. However, Trinh discloses: "An embodiment of the invention compares the presentation time at the receiver with the server elapsed time estimated from timestamp values on the served data. When the presentation time and the server elapsed time differ by an unacceptably large amount, an adjustment is made to the audio data stream to re-synchronize the presentation time with the elapsed time, which effectively also synchronizes the overall presentation rate with the overall server rate," (line 67 of column 2 through line 8 of column 3).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the time stamp as an indication of the elapsed time from a start of the control process, and where the elapsed time is proportional to a time elapsed in the control process between the synchronization points. "It would be advantageous to synchronize presentation of video data at a receiver with the rate the

data is served by a video server without the need for a voltage control oscillator. This is achieved through real-time adjustments to the audio stream and subsequent synchronization of the video stream with the adjusted audio stream," (lines 56-61 of column 2 in Trinh). It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have the time stamp as an indication of the elapsed time from a start of the control process, and where the elapsed time is proportional to a time elapsed in the control process between the synchronization points in the system as taught by Kuo.

15. Claims 12-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo in view of Redmond and Baker as applied to claim 11, further in view of Willmann et al. (U.S. 5,521,923) hereinafter referred to as Willmann.

As per claims 12 and 13, Kuo teaches: said control process receives a plurality of said event expression messages... (lines 33-35 of column 2 and lines 35-42 of column 3).

Kuo does not explicitly teach: said control process ordering each of said event expression messages... and said control process delivers said sorted event expression messages... However, Willmann discloses: "Each of these data packets is provided with a time stamp TS, which gives information on the order of arrival of the data packets. The queues QU1 and QU2 are organized as FIFO queues (FIFO=first-in-first-out)," (lines 16-19 of column 4).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have said control process ordering each of said event expression messages... and said control process delivers said sorted event expression messages... FIFO queue usage with timestamps is very well known in the art at the time of the applicant's invention. It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have the control process ordering each of said even expression messages within said server order queue according to the earliest time of said time stamp at which said even occurred in said sever process and to have said control process delivers said sorted event expression messages to said client processes associated with said server processes according to said predetermined ordered queue of client processes in the system as taught by Kuo and Baker.

16. Claims 14-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo and Redmond as applied to claim 5, in view of Wegrzyn (U.S. 5,729,540).

Kuo does not explicitly teach: each client process sends a finish message; control process holds said finish messages; and control process sends a finish message... However, Wegrzyn discloses: "messages are scheduled using a temporary data structure--namely the combined messages/scheduling data block 68. The combined messages/scheduling data block 68 temporarily holds messages until the end of each scheduler processing cycle," (line 66 of column 14 through line 3 of column 15).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have each client process sends a finish message; control process holds said finish messages; and control process sends a finish message... "The combined messages/scheduling data block 68 temporarily holds messages until the end of each scheduler processing cycle when the messages are ready to be formatted by frame formatter 70," (lines 1-5 of column 15 in Wegrzyn). It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have each client process sends a finish message; control process holds said finish messages; and control process sends a finish message in the system as taught by Kuo.

17. Claims 16-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo and Redmond as applied to claim 2, in view of Baker.

a. As per claim 16, Kuo teaches: a plurality of client processes... (abstract); a plurality of client processes, each of said server processes evaluates... (lines 24-42 of column 3).

Kuo does not explicitly teach: said event expression message containing a time stamp... However, Baker discloses: "A client session's time stamp is updated each time a message transaction containing the session id for the session is received," (lines 13-15 of column 17).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the event expression message contain a time stamp. "If

the time stamp value shows that a session has aged, the session entry for the aged session is cleared from the session table 660," (lines 23-35 of column 17 in Baker). It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have the event expression message contain a time stamp in the system as taught by Kuo.

b. As per claim 17, Kuo teaches: said control process software module sets up a plurality of predetermined ordered queues... (lines 33-35 of column 2 and lines 35-42 of column 3).

18. Claim 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo, Redmond, and Baker as applied to claim 2, in view of Todd (U.S. 6,510,429 B1).

As per claim 18, Kuo does not explicitly teach: the control process resides within --one of the servers--. However, Todd discloses: "One embodiment of the invention provides the relational message broker functionality on a server computer connected to the Internet," (lines 11-13 of column 11).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the control process reside within --one of the servers--. "...so that publisher and subscriber applications can access the Internet server as clients via World Wide Web browser applications. In this way, the broker 13 will push published messages over the Internet to subscriber 15's web browser application when such published messages match the criteria which the subscriber has earlier prescribed (again by using the web browser application to contact the Internet server)," (lines 13-19

of column 11 in Todd). It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have the control process reside within --one of the servers-- in the system as taught by Kuo, Redmond, and Baker.

19. Claims 19-21, 23-25, 29-30, and 38 rejected under 35 U.S.C. 102(e) as being unpatentable over Schwaller et al. (U.S. 6,408,335 B1) hereinafter referred to as Schwaller in view of Redmond.

a. As per claim 19, Schwaller teaches: a computer, servers, and clients including a processor (inherent), memory (lines 48-53 of column 11), means for I/O (lines 9-12 of column 3); a control process residing in the computer memory... (lines 34-65 of column 28, lines 27-60 of column 29, and line 62 of column 33 through line 28 of column 34).

Schwaller does not explicitly teach: a single control process. However, Redmond discloses: "Central controller 18 receives message data 12, via a communications interface, and automatically communicates with and controls database 22 to remove and/or disperse information from database 22 that matches information contained in the message data 12," (lines 21-25 of page 10).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have a single control process. "Preferably, system 10 provides an automated central controller 18 to automatically communicate with and control a plurality of databases 22, 24, 26 upon being supplied with message data 12 from a

user," (lines 25-27 of page 10 in Redmond). It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have a single control process in the system as taught by Schwaller.

b. As per claim 20, Schwaller teaches: simulated device selected from the group consisting... (abstract and lines 29-55 of column 1).

c. As per claim 21, Schwaller teaches: control process software module controls... (line 1 of column 5 through line 14 of column 6).

d. As per claim 23, Schwaller teaches: said control process stops... (lines 36-45 of column 5).

e. As per claim 24, Schwaller teaches: a plurality of client applications (line 29 of column 1 through line 21 of column 3, and Fig. 1, 3, and 4).

f. As per claim 25, Schwaller teaches: a plurality of server applications, said plurality of server applications... (line 29 of column 1 through line 21 of column 3, and Fig. 1, 3, and 4).

g. As per claim 29, Schwaller teaches: running a plurality of server process software applications that simulate a server application (abstract and lines 30-55 of column 1); running a plurality of client process software applications that each simulate a client application, each of said client applications associated with at least one of said server applications (abstract and lines 30-55 of column 1); running a protocol process software application that acts as a message broker... (lines 34-65 of column 28, lines 27-60 of column 29, and line 62 of column 33 through line 28 of column 34); and

maintaining the elapsed time of said simulation in said control process software application (lines 1-35 of column 5).

Schwaller does not explicitly teach: a single control process. However, Redmond discloses: "Central controller 18 receives message data 12, via a communications interface, and automatically communicates with and controls database 22 to remove and/or disperse information from database 22 that matches information contained in the message data 12," (lines 21-25 of page 10).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have a single control process. "Preferably, system 10 provides an automated central controller 18 to automatically communicate with and control a plurality of databases 22, 24, 26 upon being supplied with message data 12 from a user," (lines 25-27 of page 10 in Redmond). It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have a single control process in the system as taught by Schwaller.

h. As per claim 30, Schwaller teaches: determining the occurrence of a predetermined event... (lines 34-65 of column 28, lines 27-60 of column 29, line 16 of column 27 through line 33 of column 28, and line 62 of column 33 through line 28 of column 34).

i. As per claim 38, Schwaller teaches: polling each of said... (line 35 of column 3 through line 59 of column 5).

20. Claim 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller and Redmond as applied to claim 21, in view of Gee (U.S. 6,178,395 B1).

Schwaller does not explicitly teach: control process software module comprises a synchronization varying software module for varying the elapsed time duration between said synchronization points. However, Gee discloses: "Either the start time of the response or the duration of the response may then iteratively be modified to cause the response to eventually overlap the hit window, thereby generating a correct response cue," (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the control process software module comprise a synchronization varying software module for varying the elapsed time duration between said synchronization points. "Before calibration process 300 begins, the diagnostic/training software (such as OMDFF) may be initialized along with the data acquisition processor 106 of FIG. 2 to synchronize the progression of presenting the stimulus by the software and the mouse down signal durations generated by data acquisition computer/processor 104," (lines 55-61 of column 7 in Gee). It is for this reason that one of ordinary skill at the time of the applicant's invention would have been motivated to have the control process software module comprise a synchronization varying software module for varying the elapsed time duration between said synchronization points in the system as taught by Schwaller and Redmond.

21. Claim 26 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller and Redmond as applied to claim 25, in view of Iwasawa et al. (U.S. 5,361,352) hereinafter referred to as Iwasawa and Alferness et al. (U.S. 5,602,998) hereinafter referred to as Alferness.

Schwaller does not explicitly teach: said control process software module sets up a plurality of predetermined ordered queues comprising a client ordered queue of client applications and a server ordered queue of server applications.

However, Iwasawa discloses: "a method for controlling a debugging process includes the steps of registering identifiers of plural processors into an execution waiting queue in a predetermined order;" (abstract).

Alferness discloses: "The system architecture, known as the 'Queuing Architecture,' uses queues as a mechanism for message passing and process synchronization," lines 48-50 of column 1).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have said control process software module set up a plurality of predetermined ordered queues comprising a client ordered queue of client applications and a server ordered queue of server applications. "executing a corresponding program by each of the processors in an order until it is brought into either a waiting state or an end state; registering the identifier of the processor of the waiting state as a last element of the execution waiting queue; and repeating the executing step until there are no executable processors," (abstract of Iwasawa). "A queue bank may be a queue header or a queue entry. A queue is made up of one queue header and zero or more queue

entries. The queue header holds control information for the queue. Queue entries hold the message data being passed between processes. To pass a message from one process to another process in the Queuing Architecture, the sending process inserts the message data into a queue entry and then enqueues it to a queue. The receiving process, which may be waiting on entries being placed on the queue, dequeues the queue entry and processes the message data," (line 65 of column 1 through line 7 of column 2 in Alferness).

It is for these reasons that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have said control process software module set up a plurality of predetermined ordered queues comprising a client ordered queue of client applications and a server ordered queue of server applications in the system as taught by Schwaller.

22. Claim 27 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller and Redmond as applied to claim 21, in view of Baker.

Schwaller teaches: a plurality of server applications, a plurality of client applications... (line 29 of column 1 through line 21 of column 3, and Fig. 1, 3, and 4); each of said sever applications evaluates and event expression... (line 16 of column 27 through line 33 of column 28).

Schwaller does not explicitly teach: a timestamp indicating the time at which said even occurred in said server process. However, Baker discloses: "A client session's

time stamp is updated each time a message transaction containing the session id for the session is received," (lines 13-15 of column 17).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention a timestamp indicating the time at which said even occurred in said server process. "If the time stamp value shows that a session has aged, the session entry for the aged session is cleared from the session table 660," (lines 23-35 of column 17 in Baker). It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have a timestamp indicating the time at which said even occurred in said server process in the system as taught by Schwaller and Redmond.

23. Claim 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller, Redmond, and Baker as applied to claim 27, further in view of Kuo and Willmann.

Schwaller does not explicitly teach: said control process software module sets up a plurality... However, Kuo discloses: "The invention provides a mechanism that can be manipulated as an object by a client process to control bi-directional transaction message traffic between the client process and a server process. The invention allows a client process to name the mechanism as an object at a server process. The named object (also referred to as a 'Tpipe') includes the ability to receive transaction request messages and transaction output messages at the server process and to associate transaction output messages with their ultimate destinations. Thus, the association

between transaction output and its recipient is not made by a server process but is, rather, left to the client process.

The invention is embodied in both a mechanism and a procedure for bi-directional transport of transaction messages between server and client processes.

The invention affords flexibility to a transaction processing system of the client/server model in that many transaction outputs may simultaneously flow through the same Tpipe.

The invention allows a client process to create more than one Tpipe, thereby allowing distinctions to be made between transactions that occur naturally because of, for example, flow-control and synchronization differences.

The invention relieves the server process of responsibility for coupling a transaction output to an end user.

The invention provides client processes with control over the output of their submitted transactions," (lines 21-48 of column 2); and "Transaction requests are passed to the transaction manager 31 through an input queue 35. The transaction manager evaluates a transaction request, dispatches a transaction process to execute the request via one of the applications 33, 34. Output for transaction requests is queued at 36 and passed through the communications interface 25 and the communications facility 16 to the respective requesting client processes," (lines 35-42 of column 3)

Willmann discloses: "Each of these data packets is provided with a time stamp TS, which gives information on the order of arrival of the data packets. The queues

QU1 and QU2 are organized as FIFO queues (FIFO=first-in-first-out)," (lines 16-19 of column 4).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the said control process software module set up a plurality... "Each transaction message control mechanism includes a named processing object that includes a name identifying the object. The named processing object also includes an input process that receives all transaction request messages naming the object and identifying the originating client process. The input process dispatches a transaction process for each transaction request message received from the respective client process. Each transaction process oversees transaction execution and receives transaction output. A transaction process provides a transaction output message for the originating client process. In a non-sync'd mode of operation, transaction processes may synchronously send transaction output messages to client processes. In a synchronized mode of operation, one transaction process at a time sends output messages under control of an output process in the named processing object. The transaction message control mechanisms provide a bi-directional transaction message flow between server and client processes," (abstract of Kuo).

FIFO queue usage with timestamps is very well known in the art at the time of the applicant's invention.

It is for these reasons that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have the said control process

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software module set up a plurality... in the system as taught by Schwaller, Redmond, and Baker.

24. Claims 31-32 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller and Redmond as applied to claim 30, in view of Kuo and Willmann.

Schwaller does not explicitly teach: ordering with the control process... and delivering the messages... However, Kuo discloses: "The invention provides a mechanism that can be manipulated as an object by a client process to control bi-directional transaction message traffic between the client process and a server process. The invention allows a client process to name the mechanism as an object at a server process. The named object (also referred to as a 'Tpipe') includes the ability to receive transaction request messages and transaction output messages at the server process and to associate transaction output messages with their ultimate destinations. Thus, the association between transaction output and its recipient is not made by a server process but is, rather, left to the client process.

The invention is embodied in both a mechanism and a procedure for bi-directional transport of transaction messages between server and client processes.

The invention affords flexibility to a transaction processing system of the client/server model in that many transaction outputs may simultaneously flow through the same Tpipe.

The invention allows a client process to create more than one Tpipe, thereby allowing distinctions to be made between transactions that occur naturally because of, for example, flow-control and synchronization differences.

The invention relieves the server process of responsibility for coupling a transaction output to an end user.

The invention provides client processes with control over the output of their submitted transactions," (lines 21-48 of column 2); and "Transaction requests are passed to the transaction manager 31 through an input queue 35. The transaction manager evaluates a transaction request, dispatches a transaction process to execute the request via one of the applications 33, 34. Output for transaction requests is queued at 36 and passed through the communications interface 25 and the communications facility 16 to the respective requesting client processes," (lines 35-42 of column 3)

Willmann discloses: "Each of these data packets is provided with a time stamp TS, which gives information on the order of arrival of the data packets. The queues QU1 and QU2 are organized as FIFO queues (FIFO=first-in-first-out)," (lines 16-19 of column 4).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to order with control process... and deliver the messages... "Each transaction message control mechanism includes a named processing object that includes a name identifying the object. The named processing object also includes an input process that receives all transaction request messages naming the object and

identifying the originating client process. The input process dispatches a transaction process for each transaction request message received from the respective client process. Each transaction process oversees transaction execution and receives transaction output. A transaction process provides a transaction output message for the originating client process. In a non-sync'd mode of operation, transaction processes may synchronously send transaction output messages to client processes. In a synchronized mode of operation, one transaction process at a time sends output messages under control of an output process in the named processing object. The transaction message control mechanisms provide a bi-directional transaction message flow between server and client processes," (abstract of Kuo).

FIFO queue usage with timestamps is very well known in the art at the time of the applicant's invention.

It is for these reasons that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to order, in said control process... and deliver said messages... in the system as taught by Schwaller.

25. Claim 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller, Redmond, Kuo, and Willmann as applied to claim 32, further in view of Official Notice.

Schwaller does not explicitly teach: the combination of sorting by server order and time order; and the combination of delivering messages sorted by client order and time order.

Official notice is taken of the combination of sorting by server order and time order; and the combination of delivering messages sorted by client order and time order. Server order, client order, and time order are all taught in the combination of Schwaller, Kuo, and Willmann as applied to the rejection of claim 32. Sorting methods can easily be modified and combined for more efficient and selective distribution.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine sorting by server order and time order; and to deliver messages sorted by client order and time order.

It is for these reasons that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to combine sorting by server order and time order; and to deliver messages sorted by client order and time order in the system as taught by Schwaller.

26. Claim 34 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller and Redmond as applied to claim 29, in view of Gee.

Schwaller teaches: stopping said servers upon each of said servers reaching said synchronization point (lines 36-45 of column 5).

Schwaller does not explicitly teach: setting a plurality of synchronization points comprising elapsed time in the simulation of servers and clients. However, Gee discloses: "Either the start time of the response or the duration of the response may then iteratively be modified to cause the response to eventually overlap the hit window, thereby generating a correct response cue," (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to set a plurality of synchronization points comprising elapsed time in the simulation of servers and clients. "Before calibration process 300 begins, the diagnostic/training software (such as OMDFF) may be initialized along with the data acquisition processor 106 of FIG. 2 to synchronize the progression of presenting the stimulus by the software and the mouse down signal durations generated by data acquisition computer/processor 104," (lines 55-61 of column 7 in Gee). It is for this reason that one of ordinary skill at the time of the applicant's invention would have been motivated to set a plurality of synchronization points comprising elapsed time in the simulation of servers and clients in the system as taught by Schwaller.

27. Claim 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller in view of Gee as applied to claim 34.

Schwaller does not explicitly teach: varying the duration of elapsed time between said synchronization points by way of said control process setting the duration of time to elapse between synchronization points. However, Gee discloses: "Either the start time of the response or the duration of the response may then iteratively be modified to cause the response to eventually overlap the hit window, thereby generating a correct response cue," (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to vary the duration of elapsed time between said synchronization points by way of said control process setting the duration of time to elapse between

synchronization points. "Before calibration process 300 begins, the diagnostic/training software (such as OMDFF) may be initialized along with the data acquisition processor 106 of FIG. 2 to synchronize the progression of presenting the stimulus by the software and the mouse down signal durations generated by data acquisition computer/processor 104," (lines 55-61 of column 7 in Gee). It is for this reason that one of ordinary skill at the time of the applicant's invention would have been motivated to vary the duration of elapsed time between said synchronization points by way of said control process setting the duration of time to elapse between synchronization points in the system as taught by Schwaller.

28. Claim 36 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller, Redmond, and Gee as applied to claim 34, and further in view of Kuo, Willmann, and Official Notice.

Schwaller teaches: determining the occurrence of a predetermined event..., maintaining, in said control process..., a list of the occurrence..., and communicating said predetermined events... (lines 34-65 of column 28, lines 27-60 of column 29, line 16 of column 27 through line 33 of column 28, and line 62 of column 33 through line 28 of column 34).

Schwaller does not explicitly teach: setting a plurality of synchronization points...; ordering, in said control process...; and delivering messages... However, Gee discloses: "Either the start time of the response or the duration of the response may

then iteratively be modified to cause the response to eventually overlap the hit window, thereby generating a correct response cue," (abstract).

Kuo discloses: "The invention provides a mechanism that can be manipulated as an object by a client process to control bi-directional transaction message traffic between the client process and a server process. The invention allows a client process to name the mechanism as an object at a server process. The named object (also referred to as a 'Tpipe') includes the ability to receive transaction request messages and transaction output messages at the server process and to associate transaction output messages with their ultimate destinations. Thus, the association between transaction output and its recipient is not made by a server process but is, rather, left to the client process.

The invention is embodied in both a mechanism and a procedure for bi-directional transport of transaction messages between server and client processes.

The invention affords flexibility to a transaction processing system of the client/server model in that many transaction outputs may simultaneously flow through the same Tpipe.

The invention allows a client process to create more than one Tpipe, thereby allowing distinctions to be made between transactions that occur naturally because of, for example, flow-control and synchronization differences.

The invention relieves the server process of responsibility for coupling a transaction output to an end user.

The invention provides client processes with control over the output of their submitted transactions,” (lines 21-48 of column 2); and “Transaction requests are passed to the transaction manager 31 through an input queue 35. The transaction manager evaluates a transaction request, dispatches a transaction process to execute the request via one of the applications 33, 34. Output for transaction requests is queued at 36 and passed through the communications interface 25 and the communications facility 16 to the respective requesting client processes,” (lines 35-42 of column 3)

Willmann discloses: “Each of these data packets is provided with a time stamp TS, which gives information on the order of arrival of the data packets. The queues QU1 and QU2 are organized as FIFO queues (FIFO=first-in-first-out),” (lines 16-19 of column 4).

Official notice is taken of the combination of sorting by server order and time order; and the combination of delivering messages sorted by client order and time order. Server order, client order, and time order are all taught in the combination of Schwaller, Kuo, and Willmann as applied to the rejection of claim 32. Sorting methods can easily be modified and combined for more efficient and selective distribution.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to set a plurality of synchronization points comprising elapsed time in the simulation of servers and clients. “Before calibration process 300 begins, the diagnostic/training software (such as OMDFF) may be initialized along with the data acquisition processor 106 of FIG. 2 to synchronize the progression of presenting the

stimulus by the software and the mouse down signal durations generated by data acquisition computer/processor 104,” (lines 55-61 of column 7 in Gee). It is for this reason that one of ordinary skill at the time of the applicant’s invention would have been motivated to set a plurality of synchronization points comprising elapsed time in the simulation of servers and clients in the system as taught by Schwaller.

It would have been obvious to one of ordinary skill in the art at the time of the applicant’s invention to order, in said control process... and deliver said messages... “Each transaction message control mechanism includes a named processing object that includes a name identifying the object. The named processing object also includes an input process that receives all transaction request messages naming the object and identifying the originating client process. The input process dispatches a transaction process for each transaction request message received from the respective client process. Each transaction process oversees transaction execution and receives transaction output. A transaction process provides a transaction output message for the originating client process. In a non-sync’d mode of operation, transaction processes may synchronously send transaction output messages to client processes. In a synchronized mode of operation, one transaction process at a time sends output messages under control of an output process in the named processing object. The transaction message control mechanisms provide a bi-directional transaction message flow between server and client processes,” (abstract of Kuo).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine sorting by server order and time order; and to deliver messages sorted by client order and time order.

It is for these reasons that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to combine sorting by server order and time order; and to deliver messages sorted by client order and time order in the system as taught by Schwaller.

29. Claim 37 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller, Redmond, Gee, Kuo, Willmann, and Official Notice as applied to claim 36, further in view of Wegrzyn.

Schwaller does not explicitly teach: determining through the control process whether client/server applications...; the control process acknowledging...; and the simulation terminating...

However, Wegrzyn discloses: "messages are scheduled using a temporary data structure--namely the combined messages/scheduling data block 68. The combined messages/scheduling data block 68 temporarily holds messages until the end of each scheduler processing cycle," (line 66 of column 14 through line 3 of column 15).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have each client process sends a finish message; control process holds said finish messages; and control process sends a finish message... "The combined messages/scheduling data block 68 temporarily holds messages until the end of each scheduler processing cycle when the messages are ready to be

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formatted by frame formatter 70," (lines 1-5 of column 15 in Wegrzyn). It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have each client process sends a finish message; control process holds said finish messages; and control process sends a finish message in the system as taught by Schwaller.

30. Claim 39 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller in view of Redmond.

As per claim 39, Schwaller teaches: means for sending and receiving messages to and from the server means and said client means... (lines 34-65 of column 28, lines 27-60 of column 29, and line 62 of column 33 through line 28 of column 34); said server means, said client means and said message broker means act as a simulator performing a repeatable simulation (lines 49-56 of column 4).

Schwaller does not explicitly teach: wherein the server process, the client process, and the control process are all separate and distinct processes, and all messages between the server process and the client process are controlled by and relayed through the message broker. However, Redmond discloses: "Central controller 18 receives message data 12, via a communications interface, and automatically communicates with and controls database 22 to remove and/or disperse information from database 22 that matches information contained in the message data 12," (lines 21-25 of page 10).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the server, client, and control processes as separate and distinct processes and have all messages between the server process and the client process controlled by and relayed through the message broker. "Preferably, system 10 provides an automated central controller 18 to automatically communicate with and control a plurality of databases 22, 24, 26 upon being supplied with message data 12 from a user," (lines 25-27 of page 10 in Redmond). It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have the server, client, and control processes as separate and distinct processes and have all messages between the server process and the client process controlled by and relayed through the message broker in the system as taught by Schwaller.

31. Claim 40 rejected under 35 U.S.C. 103(a) as being unpatentable over Schwaller and Redmond as applied to claim 39 in view of Baker.

Schwaller teaches: said server means evaluates...; said server means sends an event expression...; and a plurality of said server means and said client means... (line 29 of column 1 through line 21 of column 3, and Fig. 1, 3, and 4).

Schwaller does not explicitly teach: event expression message containing a timestamp. However, Baker discloses: "A client session's time stamp is updated each time a message transaction containing the session id for the session is received," (lines 13-15 of column 17).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the event expression message contain a time stamp. "If the time stamp value shows that a session has aged, the session entry for the aged session is cleared from the session table 660," (lines 23-35 of column 17 in Baker). It is for this reason that one of ordinary skill in the art at the time of the applicant's invention would have been motivated to have the event expression message contain a time stamp in the system as taught by Schwaller.

Response to Arguments

32. Applicant's arguments with respect to claims 1-40 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Li et al. (U.S. 5,699,523) discloses method for communicating between at least one client and at least one server.

Choquier et al. (U.S. 5,774,668) discloses gateway message brokering and load balancing.

Fish et al. (U.S. 5,805,812) discloses communication system for the remote control of equipment and central controller.

Smith (U.S. 5,835,724) discloses system for communicating information using the internet and maintaining information about the client and session.

Colyer (U.S. 5,862,328) discloses bridge for client-server environment.

Shaughnessy et al. (U.S. 5,928,325) discloses dynamically establishing communication of incoming messages to one or more user devices presently available to an intended recipient.

Murphy, Jr. et al. (U.S. 6,061,741) discloses method for synchronization of connectionless applications across a network by using simple encryption tokens.

Furusawa et al. (U.S. 6,338,081) discloses message handling and controlling program.

Toprac et al. (U.S. 6,346,426 B1) discloses central processor in a generic system.

Cherkasova et al. (U.S. 6,360,270 B1) discloses hybrid and predictive admission control strategies for a server.

Huang et al. (U.S. 6,477,543 B1) discloses a device for a client and adaptive synchronization and transformation server.

34. Because the grounds of rejection have changed, this action is **non-final**. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Meucci at (571) 272-3892. The examiner can normally be reached on Monday-Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell, can be reached at (571) 272-3868. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [michael.meucci@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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